Abstract of the Invention

An element-doped diamond crystal is disclosed herein. The crystal includes at least one dopant element which has a greater concentration toward or near an outermost surface of the crystal than in the center of the crystal. The concentration of the dopant element is at a local minimum at least about 5 micrometers below the surface. The concentration-profile of the dopant element for these diamond crystals causes an expansion of the diamond lattice, thereby generating tangential compressive stresses at the surface of the diamond crystal. These stresses beneficially increase the compressive fracture strength of the diamond.